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A few Additional Particulars regarding *Couchia Edwardii*.
By THOMAS EDWARD, A.L.S.

[Read Jan. 16, 1868.]

ON the 16th November, 1865, a paper from J. Couch, F.L.S. &c. was read to the Society*, intimating the capture of a new British fish in the Moray Firth, at Banff, belonging to the family Gadidæ, and which he named *Couchia Edwardii*. As only a few specimens were then taken, and as I was unwilling to subject these, in case of injury, to anything like a strict or searching scrutiny, a full account of them could not then be given. Having lately procured more, and having examined some of them carefully and minutely with the view, if possible, of ascertaining their true or specific characters more distinctly, and being the discoverer of the species, I trust that the following additional particulars, thus obtained, will not be considered uninteresting or out of place in the Society's Journal.

Mr. Couch, in his paper, stated the length of the species to be an inch and five-eighths. This I believe to be about their usual or full size, as I have never yet met with them larger, but have seen some much smaller, as will be hereafter specified.

Jaws about equal; or, if any difference, the upper has the advantage. Head remarkably obtuse in front; in fact, it is altogether so roundish-looking that it may be called *pea-shaped*. Depth of head, behind the eye, two-eighths of an inch, which

* *Vide* Journal, vol. ix. p. 38.

is about equal to its length. Body, at termination of dorsal fin, one-eighth. From the head to the vent the aspect is much more broad than round, and thence to the tail rather riband-like. Eyes placed much nearer the front than the back of the head. Teeth in pairs, in both jaws, small, conical, very sharp, and incurved. The ciliated or nervous membrane, erroneously called a fin, and situated in a groove betwixt the head and the dorsal, consists of about thirty very fine and soft-looking filaments, the first long, whilst the others are rather short, the second and last being the shortest, a slight and gradual increase from these extremes being observable to the middle. Dorsal rays 52; pectorals 17, roundish; ventrals 5, the first short, the second and third longer, the fourth longest, the fifth being the same as the third; anal 41; caudal 33. The rays of the ventrals are quite destitute of any membrane for a portion of their length. The anal commences about opposite to the twelfth ray of the dorsal, and ends with it, almost close to the caudal. Lateral line, after passing the pectoral, straight, dividing, as it were, the fish, into two equal portions. Pectorals placed high, and having their origin slightly behind the ventrals. Back, when alive, slightly arched.

Having taken all the members which constitute this interesting group, I am enabled to say that, in general aspect, the present resembles Thompson's Midge more than any of the others—also that in length the pectorals and ventrals approximate much nearer to that species than to any of the rest.

In attempting, however, as I have done, to give the formula of the fin-rays, &c., I would crave a little indulgence; for, although several specimens were examined, both dead and alive, the task, from various circumstances, proved a rather difficult one. Still I think that most of the numbers stated will be found, if not altogether correct, at least pretty close to the mark; and, although of no other value, they may serve as a guide to others, until some one else, gifted with more patience, possessed of better discerning powers and a clearer vision, attempts the task, and gives them more correctly, should I be in error.

The colours have already been stated, by Mr. Couch, to be white, blue, and yellow. The white of the belly, sides, and operculum, which has a most remarkable brilliancy, like polished silver, I find to be constant in all, even in the smallest that I have seen; but the other tints do vary a little. In the majority of those I have met with, the upper part of the sides was of a very deep blue;

whilst the back, especially along the dorsal ridge and crown of the head, was of a beautiful green. This last, however, soon changes after death to a dull or gamboge-yellow. To see the colour of the back to advantage, or as it should be, the fish must be looked down on from above.

The food of this species, and perhaps of the genus, would seem to consist, at least in part, of some of the more minute crustaceans. I am led to believe this from the circumstance that, having dissected a few, I found what appeared to be the remnants of *Anomalocera Pattersonii* and *Cetochilus septentrionalis*, with fragments of shells of either Entomostraca or Cirripeds, or perhaps both, in the stomachs of three. Another contained several atoms of a glutinous character; but *what*, could not be satisfactorily determined. Some contained nothing. I could detect no *roe*; two, I think, exhibited the *milt* in course of formation, but not so far developed as to warrant my saying so with certainty.

They would appear to be, in some measure, migratory—that is, approaching the shore, and again retiring at certain seasons; at least, I have never noticed them, so far as I remember, except during the months of September and October. But this must not, on any account, be taken or accepted as their general or fixed habit, as my means of observation are very limited. In October of the present year I took a number, varying from three to six-eighths of an inch in length. These, I need scarcely say, were looked upon as the young in different stages of growth. They had all the characteristics of the larger ones, except being more tender, and their upper tints less bright.

I have already expressed myself with regard to their size (that is, that when they had reached an inch and five-eighths they were then at their full or mature growth), and given my reasons for coming to this conclusion. I would here add another fact, and one which tends greatly to strengthen the opinion thus formed, viz. the seemingly firm and compact texture of their flesh, and durability of their colours, as compared with the known young of nearly allied genera and others, and which was tested in the following manner. Having procured a few immature specimens of several of our smaller fishes, such as Rocklings, Blennies, Gobies, &c., ranging from nearly one to over two inches in length, according to the species, I soaked them in spirit, along with a full-grown specimen of *C. Edwardii*, for a short time. They were then laid out on a piece of glass, and exposed to the air, but not to the

sun's rays. The day after, all, more or less, showed strong symptoms of decay, except *Couchia*, which alone exhibited little or no change. It would be quite superfluous to detail here every day's appearance during the fortnight the experiment lasted. Suffice it to say that at the end of that period scarcely anything remained but the flattened, dried-up, skinny, and all but colourless skeletons of the lot, save the little beauty, who still stood wonderfully out, being little the worse in appearance. True, the eye was sunk and dull, and the softer portion of its body a little, but only a little, shrivelled. Its colours too, except the green, were nearly as vivid as when it was first laid out, or when it used to dart, like a silver arrow, through the waters of the deep.

Catalogue of the Reptiles of British Birma, embracing the Provinces of Pegu, Martaban, and Tenasserim; with descriptions of new or little-known species. By W. THEOBALD, JUN., Geological Survey of India. Communicated by G. BUSK, Esq., Sec. L.S.

[Read November 7, 1867.]

IN preparing the present catalogue, my object has been twofold:—first the correct discrimination of the species authentically known to be from Birma, amongst those contained in the somewhat lengthy list of reptiles generally referred to the “East Indies”; and secondly the description of such new species as have occurred to me, or such additional details of known species as my opportunities may have enabled me to gather.

The present catalogue is based mainly on specimens examined by myself, the few instances being noted where I have not seen the animals. The great majority of the specimens have been collected by myself, and the descriptions drawn up from them while fresh, which has enabled me to make some corrections in the work of my eminent predecessor in this subject, Dr. Günther, whose monograph has been of inestimable value to me, and to worthily supplement which, by the present communication, I shall regard as my chief praise.

The specimens alluded to in the present catalogue are, with few exceptions, either in the Museum of the Asiatic Society of Bengal (now incorporated with the Imperial Museum in Calcutta) or in